4-BUTTON 1-WAY AUTOMATIC/MANUAL TRANSMISSION REMOTE STARTER WITH VIRTUAL TACH SYSTEM (AS PRG-1000 COMPATIBLE)

QUICK INSTALLATION GUIDE

To obtain a copy of the installation guide, please visit our website at www.prostart.org

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The wiring diagram is at the middle of this guide.

MANUAL OR AUTOMATIC TRANSMISSION SETUP

This module may be installed on vehicles with manual or automatic transmissions. It is originally configured for manual transmissions. If the vehicle you are working on is automatic, it is necessary to make a few quick and easy modifications before the unit is connected. In the event that the configuration requires changes afterwards, a complete reset will be necessary before those changes become effective.

To install this unit in a vehicle with a **MANUAL** transmission:

1. Make sure the Yellow loop on the PC board is connected. (Default)
2. Connect the Orange handbrake wire, located on the 12-pin harness, to the vehicle handbrake switch. (-)
3. Connect the Blue/White (+) door input OR the Grey (-) door input wire, located on the 12-pin harness, to the vehicle door pin wire. It will monitor all the doors of the vehicle (only use 1 of the 2 door trigger inputs).
4. Make sure the Purple TACH wire is installed on a TACH source – the TACH wire MUST be hooked up when the module is set for a manual transmission.
5. Make all your regular connections.
6. Power up the unit by first inserting the 5-pin connector, then the 6-pin connector and finally the 12-pin connector. The parking lights will flash 4 times.
7. When learning the transmitter, the parking lights will flash 5 times quickly.
8. Upon the first successful remote start, the system will lock the transmission settings to manual mode.

To install this unit in a vehicle with an **AUTOMATIC** transmission:

1. Cut the loop on the back of the remote starter module (Yellow wire).
2. Make sure the Orange handbrake wire is not connected to any of the vehicle circuits (cut and tape).
3. Make all the regular connections.
4. Power up the unit by first inserting the 5-pin connector, then the 6-pin connector and finally the 12-pin connector. The parking lights will flash 4 times.
5. When learning the first transmitter, the parking lights will flash 5 times quickly then give 2 slow flashes.
6. Upon the first successful remote start, the system will lock the transmission settings to automatic mode.

Notice
The manufacturer will accept no responsibility for any electrical damage resulting from improper installation of the product, be that either damage to the vehicle itself or to the unit. This unit must be installed by a certified technician using all safety devices supplied. Please note that this guide has been written for properly trained Autostart technicians: a certain level of skills and knowledge is therefore assumed. Please review the installation guide carefully before beginning any work.
Warning
Before installing the unit, if installing on a vehicle with a **manual** transmission, test that the OEM Door Switch contacts of the vehicle work well, and that the Parking Brake system operates properly. If installing on a vehicle with an **automatic** transmission, test that the vehicle does not start when the gearshift lever is in the "Drive" position. If it starts in gear, reset the remote starter to manual transmission.

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Note: If upon pressing the START/STOP button the parking lights give 3 slow flashes, make sure that the Orange handbrake wire is not connected, the hand brake is not engaged and that the yellow loop is cut and isolated/taped.

NEW FEATURE – PUSH TO START

Disabled by default, PTS mode is a special feature that is intended to facilitate the remote starter installation on most Push To Start vehicles. With PTS mode enabled, the remote starter will offer the installer a negative start output (to pulse the vehicle's PTS switch), as well as a (+) brake switch output (no external relay necessary). With PTS enabled, the White/Green wire on the 12 pin harness becomes your negative (-) PTS switch output. It will give a one second output intended to pulse the PTS switch. Also, the Purple crank output becomes your brake switch output (this will turn the brake circuit ON for crank).

NEW FEATURE – HYBRID OPTION

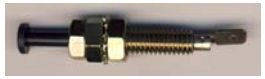
Warning: For automatic transmissions only.

This option is disabled by default. It can be enabled in Mode 3 of the programming options.

HYBRID mode is a special feature that is intended to facilitate the remote starter installation on most Hybrid vehicles. With HYBRID mode enabled, the remote starter will give a four second crank output on its crank wire (It will not rely on VTS to stop the crank cycle). The only way to shorten the four second crank output is to program a tach signal to the remote starter. If a tach signal is programmed, the remote starter will act like normal (the HYBRID feature should be used when a tach reference is not available from the vehicle or the bypass being used at the time of installation).

ENTERING PROGRAMMING MODE

These are the programming buttons:

The Hood Pin	The Antenna Programming Button (the A.P.B.) (Optional)
	
The Programming Button (a.k.a. the P.B.) The **P.B.** is located on the side of the module. This push button mimics the **hood-pin switch** in order to avoid having to get out of the vehicle for programming. **The P.B. will work only when the hood pin is installed and the hood is up.**	-

Complete step by step module programming

1) Entering Programming Mode
2) Programming the transmitter to the module
3) Entering Programming Options
4) Programming the options
5) Adjusting the Horn output (if installed)
6) Setting up the TACH, VTS or Multi-speed Tach

Entering programming mode using the Hood Pin	**Entering programming mode using the A.P.B. (Optional)**
• Press and hold the hood pin down for 4 seconds.	• Make sure the hood is closed.
• Release the hood pin. The parking lights will turn **ON** for 1 second.	• Turn the ignition key to the **IGNITION ON (RUN)** position.
• While the parking lights are **ON**, press the hood pin once more and release immediately. The parking lights will turn **ON** and stay **ON** for 20 seconds. You now have 20 sec. to select a submenu.	• Within 5 seconds, press the programming button on the antenna twice for 1 second each time. The LED will come **ON** solid for 20 sec. • You now have 20 seconds to select one of the sub-menus.
Note 1: To exit programming mode, close the hood.	**Note 1:** To exit programming mode, press on the antenna button once (the LED will come **ON**) and release.
Note 2: For vehicles that require the ignition to be turned **ON** to activate the brake circuit, follow these steps to select a submenu: • After flashing the hood, turn the ignition **ON** and wait for the parking lights to come **ON**. Then, press the brake pedal to access the sub-menus.	

PROGRAMMING THE TRANSMITTER TO THE MODULE

1. **In programming mode (page 3)** - the parking lights will stay on for up to 20 seconds.
2. Before the lights go out, turn the ignition key to OFF (if not OFF already), then ON, then OFF.
3. Press and hold the button until the parking lights flash **5 times quickly** (unit will click).
4. The transmitter has been stored in memory. Each unit can store 4 remotes in its memory.
5. You have 20 more seconds to select one of the sub-menus if needed.

To program a transmitter on the second vehicle for multi-car operation;
press the button (instead of) in step 3 of the transmitter association procedure.

ENTERING PROGRAMMING OPTIONS

1. **In programming mode (page 3) —** the parking lights will stay on for up to 20 seconds.
2. Before the lights go out, press and hold the brake pedal and then press one of the following buttons.
   - **LOCK** to access mode 1;
   - **UNLOCK** to access mode 2;
   - **TRUNK** to access mode 3
3. The parking lights will flash 1, 2 ou 3 times to confirm entry into a mode.
4. Release the brake pedal.

Once the desired mode has been selected, the unit will fall (by default) into function #1 of that mode; you can now select the option you want in function 1. Once this option has been chosen, the unit will move on to function 2 of the mode selected, and so on.

- **LOCK** to access option 1;
- **UNLOCK** to access option 2;
- **TRUNK** to access option 3;
- **START/STOP** to access option 4.

5. After the programming of any mode is completed, the parking lights and the LED on the antenna will turn ON for 20 sec. During those 20 seconds, select one of the sub-menus if needed.

PROGRAMMING OPTIONS

MODE 1 ** INDICATES DEFAULT SETTING*

FUNCTION 1 – Ignition-controlled door locks

OPTION 1*	**Ignition lock DISABLED**
OPTION 2	Ignition lock **ENABLED**

FUNCTION 2 – Secure Lock

OPTION 1*	**Secure lock DISABLED**
OPTION 2	Standard secure lock **ENABLED**

FUNCTION 3 – Starter Kill

OPTION 1*	**Passive arming (60 sec.)**

	OPTION 2	Active arming
	OPTION 3	Passive arming (3 min.)
FUNCTION 4 – Door lock / unlock pulse timing		
	OPTION 1*	**7/10-sec. lock / unlock pulses**
	OPTION 2	4-sec. lock / unlock pulses
	OPTION 3	7/10-sec. lock pulse and two ¼ -sec. unlock pulses
FUNCTION 5 – LED flashing		
	OPTION 1*	**ENABLED (will only flash when ignition is OFF)**
	OPTION 2	**DISABLED**
	OPTION 3	**ENABLED** (will only flash when Starter kill engages [depends on Mode 1, Function 3 programming])

MODE 2	** INDICATES DEFAULT SETTING*	
FUNCTION 1 – Engine Run Time		
	OPTION 1	Run time = 3 minutes in **gas** mode / 8 minutes **diesel** mode
	OPTION 2*	**Run time = 15 minutes in gas mode / 20 minutes diesel mode**
	OPTION 3	Run time = 25 minutes in **gas** mode / 30 minutes **diesel** mode
FUNCTION 2 –Idle Mode & Turbo Mode (auto) / Turbo Mode (manual)		
	OPTION 1	Idle mode & turbo mode **DISABLED (AUTO)** / turbo mode **DISABLED (MANUAL)**
	OPTION 2*	**Idle mode & turbo mode ENABLED (AUTO) / turbo mode DISABLED (MANUAL)**
	OPTION 3	Idle mode & turbo mode **ENABLED (AUTO)** / turbo mode **ENABLED (MANUAL)**
FUNCTION 3 – Engine type and Cold Weather Mode		
	OPTION 1	Diesel mode with 20-minute run time in cold weather mode (30-sec. wait to start delay)
	OPTION 2*	**Gas mode with 3-minute run time in cold weather mode**
	OPTION 3	Diesel mode with 8-minute run time in cold weather mode (18-sec. wait to start delay)
FUNCTION 4 – AUX 1 programming		
	OPTION 1	Horn confirmation on 2nd press of LOCK button
	OPTION 2*	**Priority door access**
	OPTION 3	Horn confirmation when pressing LOCK button
FUNCTION 5 – SmartStart™		
	OPTION 1	SmartStart™ ON
	OPTION 2*	**SmartStart™ OFF**

MODE 3	** INDICATES DEFAULT SETTING*	
FUNCTION 1 – Ready Mode Option / Hybrid Option		
	OPTION 1	**ENABLED** by handbrake
	OPTION 2*	**ENABLED by remote**
	OPTION 3	Hybrid option **ENABLED**
FUNCTION 2 – Bypass		
	OPTION 1	ADS
	OPTION 2*	**Xpresskit**
	OPTION 3	Fortin
FUNCTION 3 – Bypass Type / Push to start		
	OPTION 1	One-Way communication / Push to Start **DISABLED**
	OPTION 2*	**Two-Way communication / Push to Start DISABLED (For Xpresskit only)**
	OPTION 3	Two-Way communication / Push to Start **ENABLED** (For Xpresskit only)
	OPTION 4	One-Way communication / Push to Start **ENABLED**

HORN ADJUSTMENT

Note: Before adjustment, horn option must be enabled.

1. **In programming mode (page 3).**
2. Press and hold the brake pedal, then simultaneously press the **UNLOCK** and **START/STOP** buttons — the horn will chirp 5 times.
3. Release the brake pedal.
4. To change the timing:
    1. To increase the horn pulse by 3 ms, press the **LOCK** button.
    2. To decrease the pulse by 3 ms, press the **UNLOCK** button.
    3. To increase the pulse by 10 ms, press the **START/STOP** button.
    4. To decrease the pulse by 10 ms, press the **TRUNK** button.

- ❑ **Parking brake shutdown circuit (for manual vehicles only).** With the vehicle running under remote start, disengage the parking brake. The engine should shut down immediately. If the engine continues to run, check the parking brake switch connection.
- ❑ **OEM alarm control.** Make sure the module is able to arm and disarm the OEM alarm (if applicable).
- ❑ **Door locks and trunk testing.** Make sure each of these options respond to the transmitter (if installed).
- ❑ **Door pin shutdown circuit (for manual vehicles only).** Make sure the system exits ready mode when each door is opened. (Test each door.)
- ❑ **Starter kill option.** Sit inside the vehicle with all doors closed. Arm the vehicle, then try to start the engine with the key. The engine should not start. If the engine starts, rewire the starter kill to reach proper operation.
- ❑ **Valet mode.** Make sure the remote car starter is able to properly enter and exit valet mode. When setting the remote car starter into valet mode, pressing the lock button will lock the doors without activating the starter kill. (Refer to the user guide for further information on valet mode.)
- ❑ **Idle mode.** Make sure the vehicle properly enters and exits idle mode.
- ❑ **Door.** Make sure that when the system is armed, opening any door or opening the trunk will trigger the alarm (if installed).
- ❑ **Hood trigger.** Make sure that when the system is armed, opening the hood should trigger the alarm.
- ❑ **Most comebacks are the result of misunderstandings about how a product works or performs. Take the time to properly explain all functions and features to the customers before they leave the premises. Doing this will save time and money.**

DIAGNOSTICS – PARKING LIGHT FLASH TABLE

Diagnostic table for start failure.

Parking lights flashes	Cause
1 (Manual transmission only)	• Ready mode is not activated.
1 slow ➔ 2 quick	• The system is set to valet mode.
3 (Automatic transmission only)	• The parking brake is active. • Yellow loop is connected.
4	• Brake wire is active.
5 (Manual transmission only)	• Tach signal is not learned.
6	• A tach signal is detected before Ignition.
10	• Hood wire is active.

Diagnostic table for shutdown.

Parking lights flashes	Cause
1	• Runtime has expired.
2	• Shutdown by remote. • Ready mode is activated.
3	• Failed start (VTS or tach failure, depending on selected).
4	• Brake shutdown.
10	• Hood shutdown.
Flash for 30 sec.	• Panic mode.

Note: The installer can also use the PRG-1000 to diagnose shutdown and remote start failures. Refer to the PRG-1000 manual guide.

NEW FEATURE – SMARTSTART™

When teamed up with a SmartStart™ module (ASMC100), remote start features can be accessed using a smartphone. These features include lock/unlock, engine start/stop, trunk release, panic and alarm notifications. For alarm notifications, the Xpresskit™ bypass option (D2D) must be enabled.

To use these features, connect the SmartStart™ module to the SmartStart™ port located at the back of the remote start module (see the wiring diagram). The SmartStart™ feature must be enabled using the programming options list found in this guide.

TESTING

Before putting the vehicle back together, it is recommended to check that the system operates properly. The following testing procedures should be used to verify proper installation and operation of the system. Before testing, make sure that all connections are soldered and that the unit is plugged in.

- ❑ **Make sure the system properly enters and exits ready mode:**
  Ready mode is a sequence of steps that must be followed in order to allow manual transmission vehicles to be remote started. To get into ready mode:

If Ready Mode is enabled by remote	If Ready Mode is enabled by handbrake
1. Ensure that all the doors, hood and trunk are closed. Make sure that the gear selector is in the neutral position.	
2. With the engine already running, apply the parking brake once and release the brake pedal.	2. With the engine already running, apply the parking brake twice within 10 sec. Make sure to release the brake pedal. The parking lights will flash 3 times quickly and remain lit. **Skip to step 4.**
3. Within 20 sec. of engaging the parking brake, press and hold , , **or** on the transmitter. The parking lights will flash 3 times quickly and remain lit.	
4. Remove the key: the engine will continue running.	
5. Exit the vehicle and close all doors, hood and trunk.	
6. For approx. 1 second, press either: • to lock the doors and shut down the engine; • to unlock the doors and shut down the engine; • to shut down the engine without affecting the doors.	
7. The parking lights will flash twice to confirm ready mode activation.	

The system will exit ready mode if a door, the hood or the trunk is opened, if the brake pedal is pressed, if the parking brake is disengaged or if the ignition key is turned to the **IGNITION ON (RUN)** position.

- ❑ **Remote-start the engine and listen for starter drag.** If the starter cranks for too long, carry out another tach programming procedure.
- ❑ **Hood switch shutdown.** With the vehicle running under the remote car starter, open the hood; the vehicle should shut down. If it does not shut down, check the hood pin-switch and its connector.
- ❑ **Brake shutdown circuit.** With the vehicle running under the remote car starter, press and release the brake pedal. The engine should shut down immediately. If it continues to run, check the brake switch connection.

5. To save the new settings: press **LOCK** and **UNLOCK** simultaneously. If 3 chirps are returned, the new setting has been saved.
6. You have 20 more seconds to select one of the sub-menus if needed.

SETTING UP THE TACH

VIRTUAL TACH ADJUSTMENT

Warning: For automatic transmissions only.

Virtual Tach System combines the latest microcontroller technology and a complex algorithm that took years to develop. VTS is able to effectively monitor the engine starting sequence and release the starter at the right time without physically connecting the tach wire to the remote starter. The VTS constantly monitors the data and readjusts itself automatically in order to maximize its capability to start the engine properly in any weather or deteriorating battery condition.

OPTIONAL TIME DELAY ADJUSTMENT IN VIRTUAL TACH SYSTEM
Follow these steps to program crank time adjustment, if needed:

1. **In programming mode (page 3).**
   Before the lights go out, press and hold the brake pedal and press the **LOCK** and **UNLOCK** buttons simultaneously — the parking lights will flash 4 times. **Do not release the brake pedal.**
2. Press the **LOCK** button if you wish to increase the time delay or the **UNLOCK** button if you want to decrease it. **The time delay will be increased or decreased by 50 ms and the parking lights will flash once every time the LOCK or UNLOCK button is pressed.**
3. Press the **TRUNK** button to save the settings you have entered.
4. Release the brake pedal – the time delay programming is now complete.

MULTI-SPEED TACH PROGRAMMING (IF INSTALLED)

1. **In programming mode (page 3).**
2. Before the lights go out, press and hold the brake pedal and press the **LOCK** and **UNLOCK** buttons simultaneously — the parking lights will flash 4 times. At that point, release the brake pedal.
3. Start the engine and allow the vehicle to reach regular engine idle speed.
4. Once the engine is running at normal idle speed, press the brake pedal and keep it down until you hear the parking lights output click 5 times.
5. Release the brake pedal —the tach programming is now complete.

Caution! – Tach jumper settings:
Some new vehicles have a higher TACH voltage threshold, which would fall out of the normal TACH trigger circuit of the remote car starter. Changing the jumper to TACH Threshold HIGH will allow the module to properly detect the TACH signal. ***BUT***, if you are having trouble with the TACH, please call our tech support team. Problems requiring changing the TACH jumper settings are very rare.

TRANSPONDER PROGRAMMING

This procedure is detailed in the full installation guide. To obtain a copy of the installation guide, please visit our website at www.prostart.org.

RESETTING THE MODULE

WARNING! By resetting the module, all programmed values are erased — i.e.: tach, transmitter as well as programming options. The programming options are returned to their default values.

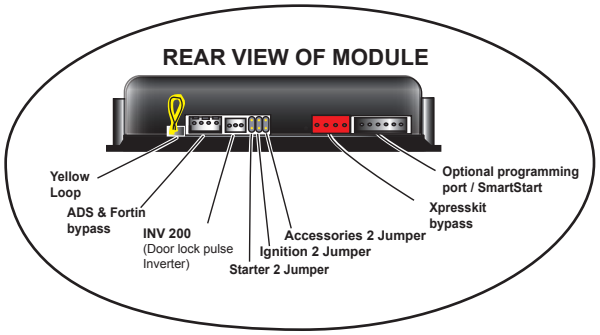
1. **Enter programming Mode (page 3).**
2. Once having reached the programming mode, quickly press and release the brake pedal until the parking lights flash 8 times.

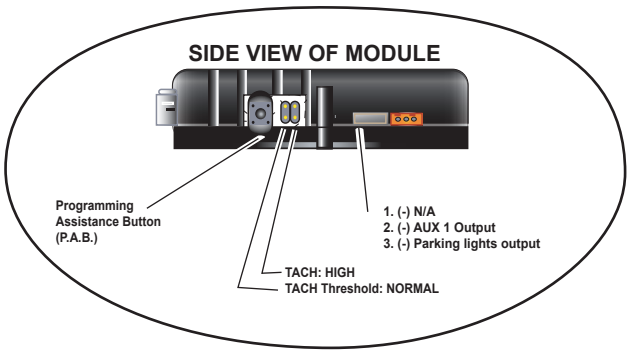
BYPASS

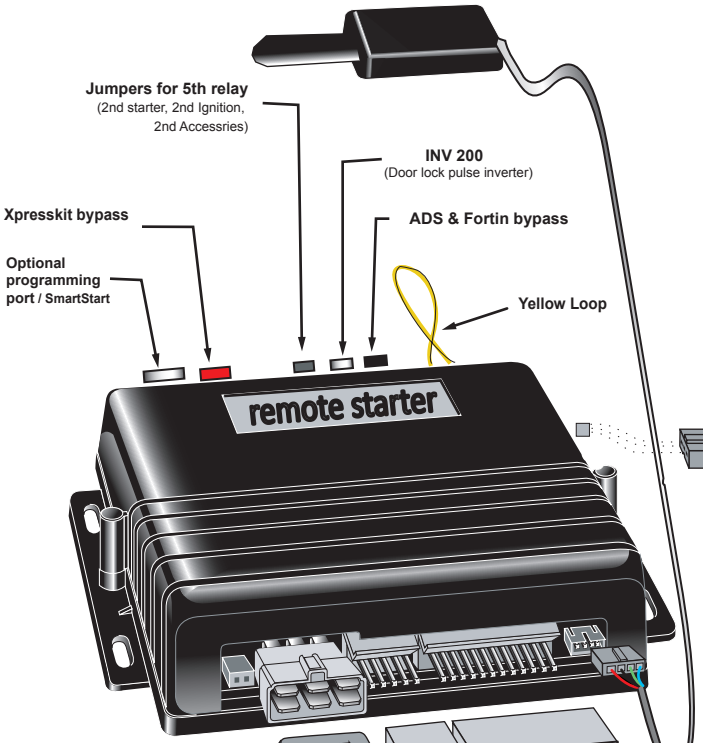
Remote starters of this series have the ability to work in two way mode (D2D) with **Xpresskit** bypass modules. They also offer one way communication with **Xpresskit, ADS** and **Fortin** brand bypass modules. **Note:** For Hardware 5.0 and higher there can only be one bypass connected to the unit.

WIRING SCHEMATIC

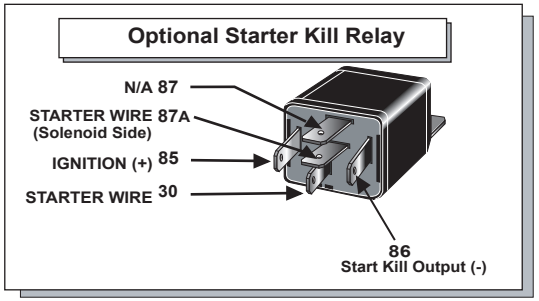
For Automatic transmission:
Cut the yellow loop before plugging the module.






Jumpers for 5th relay (2nd starter, 2nd Ignition, 2nd Accessries)
INV 200 (Door lock pulse inverter)
Xpresskit bypass
ADS & Fortin bypass
Optional programming port / SmartStart
Yellow Loop
remote starter

3. YELLOW/WHITE.....(-) Parking lights output
2. BLUE/WHITE.....(-) AUX 1 output
1. GRAY/LIGHT BLUE.....(-) N/A



30 A Fuse

YELLOW ..... IGNITION
RED .....12V (Battery)
ORANGE...ACCESSORIES (Heater Blower Motor)
PURPLE..... STARTER
GREEN ..... 5th RELAY

30 A Fuse

RED .....+12V (Battery)

12- YELLOW ..... (+) Glow plug input
11- GREY ..... (–) NEG. Door input
10- WHITE ..... (–) GROUND when running output
9- PURPLE ..... (–) EXT. TRIGGER input
8- ORANGE ..... (–) Parking Brakes input
7- WHITE/ORANGE ..... (–) Starter kill output
6- BLUE/WHITE ..... (+) POS. Door input
5- WHITE/GREEN ..... (–) DISARM output / PTS output
4- WHITE/BROWN ..... (–) REARM output
3- GREEN ..... (–) UNLOCK output
2- BROWN ..... (–) LOCK output
1- BLUE ..... (–) TRUNK output

15 A Fuse

1- BLACK ..... GROUND (–)
2- PURPLE..... TACH (AC)
3- GREY..... HOOD SWITCH (–)
4- ORANGE ..... BRAKE SWITCH (+)
5- YELLOW .....PARKING LIGHTS (+)